Expos generate enthusiasm for science and engineering

Racing frogs, building an edible aquifer and exploring the science of sound were among the many hands-on activities students experienced as Idaho National Laboratory and its partners presented this year's science and engineering expos Jan. 28-Feb. 1 at two southwest Idaho locations.

The 2008 Science Expo at Northwest Nazarene University provided an opportunity for area middle school students to explore science using inquiry-based methods, with several expo activities focused on extreme weather and its impacts.

The World Center for Birds of Prey hosted "Kill the Chill," an interactive presentation on cold weather survival techniques for raptors and other birds. Students learned about The Peregrine Fund's High Arctic project in Greenland and how specialized adaptations, camouflage, diverse hunting techniques and migratory trends allow birds to survive in harsh conditions.

Students explored how extreme weather events can impact water quality through erosion. Educators from Idaho's Department of Environmental Quality and Boise's Foothills Learning Center helped students test water samples to measure and compare water quality among different water sources.

Photo:

Participants drive model moon rovers and see Earth rocks and minerals that are similar to what the astronauts found on the moon at Discover Engineering.

Woody Sobey, Education Director at Discovery Center of Idaho, captivated the students with his juggling, unicycling and the always dangerous bed-of-nails while explaining the science behind these fascinating tricks.

Fruitland Middle School teacher Jody Hill, who has attended past expos, brought three new teachers this year. She said, "They were very impressed and thought it was well worthwhile. Students had fun, but could also reflect on what they'd learned. It's great to have college students and real scientists as role models."

At the 2008 Engineering Extravaganza at Boise State University, students rotated through interactive sessions hosted by BSU student organizations featuring hydro turbines, materials science, aerodynamics and artificial intelligence.

As the headliner for the Extravaganza, INL engineer and semi-professional musician Kevin Young presented a special interactive seminar on the science of sound. Young engaged students with hands-on demonstrations to explain what sound is, how sound waves are produced, how we hear sounds and how we manipulate sound using technology such as microphones, amplifiers and speakers.

In conjunction with these activities, INL and partner organizations presented Discover Engineering 2008 on Saturday, Feb. 2. This free event offered something for all ages and brought close to 3,000 people to the BSU Campus for hands-on activities and interactive presentations.

Photo:

NNU science students help participants explore applications of osmotic potential to living systems and the human body.

The University of Idaho's Blockfest program allowed parents and toddlers to engage in block play math and science activities. Participants left with a free block play handbook for continued learning at home.

Groups of all ages explored the concepts of diffusion and solubility in tie-die chromatography led by employees of Micron Technology, where they used permanent markers and rubbing alcohol to simulate how chemists employ chromatography to separate chemicals in a mixture to determine the different substances in that mixture.

NASA Aerospace Education Specialist Tony Leavitt guided parents and kids in designing, building and launching their own rockets from paper and tape. Then they tested their designs against other teams, launching their rockets with pneumatic pressure to see whose would fly farthest.

Comments from participants included, "lots of fun to see science in action," "It creates an enthusiasm for science in our home," "Science is much easier to understand when it's demonstrated" and "We had fun and learned a lot."

Event sponsors included NNU College of Science, BSU College of Engineering, Discovery Center of Idaho, Hewlett-Packard, Idaho Dept. of Environmental Quality, Idaho Office of Science and Technology (Dept. of Commerce), Idaho Power, Micron Technology, NASA, United Water, University of Idaho and URS Washington Division.

Altogether, these events drew close to 5,000 students, teachers and parents as they discovered the fun and excitement of the science, technology and engineering fields.

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